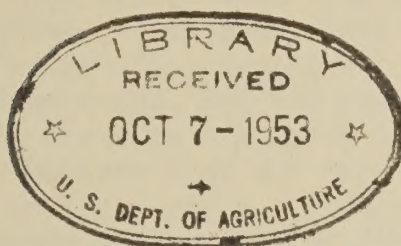


WASHINGTON 20 COLUMBIA

FIELD APPRAISAL ANALYSIS

Prepared by
Field Appraisal Section
Program Analysis Division
RURAL ELECTRIFICATION ADMINISTRATION



Field Appraisal
Completed in
May 1953

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WASHINGTON TO COLLEGE

FIELD OFFICIAL ACTION

Prepared by
Field Official Action
Program Division
Bureau of Investigation



Field Official
Action in
1952

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July 15, 1953

Field Appraisal Section
Program Analysis Division

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SUMMARY AND CONCLUSION
WASHINGTON 20 COLUMBIA

AREA CHARACTERISTICS

The population of the area increased steadily over the period 1920-1950 while the number of farms declined. Wheat is the major source of agricultural income in the area. The average value of farm land and buildings was \$63,829 per farm in 1950. Gross income from sale of farm products averaged \$14,624 in 1949. Both average farm property values and gross farm income were about three times as high as for the State as a whole, and both have increased at greater rates than for the State. In 1950, 42 percent of the farms irrigated 2 percent of the total farm land in the area. Topography is gently rolling to steep. A number of rivers provide drainage. Soils range from sandy to clay loams. The growing season ranges from 110 to 210 days.

ULTIMATE NUMBER OF CONSUMERS

On April 30, 1953, the cooperative had 1,054 consumers. The manager has estimated that a total of 1,169 consumers will be served in the near future. A Power Requirements Study completed for this system in November 1952 estimated that a total of 1,644 consumers will be served by 1962.

ESTIMATED FUTURE CONSUMPTION OF ELECTRICITY

Since 1942 average monthly farm consumption has increased from 221 kwh to 744 kwh for the 12 months ended April 1953. Farm consumers and town residential consumers indicated they expected to increase their use by 11 percent in 3 years. There is very little competition from gas. The cooperative is served by the Bonneville Power Administration, and its retail rates are low. The principal increase in usage on farms is indicated to occur in the home. Farm consumers indicated that they believe that not many more home appliances could be used beyond those planned within 3 years. Town consumers are students of Walla Walla College and residents of the Town of Starbuck. Only moderate increases in consumption can be expected for either group of town consumers. The market for wheat will have considerable effect on future consumption in the area.

Based on factors believed to be significant, this analysis leads to the following estimates which are certified as being reasonable and may be expected to be attained in the years specified:

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<u>Class of Consumer</u>	<u>12 Months Ended April 1953</u>	<u>1955</u>	<u>1958</u>	<u>1963</u>
Farm ^{a/}	744	820	900	1,000
Town Residential	487	535	575	610
Small Commercial	223 ^{b/}	160	200	260
Public Buildings	---	600	600	600
Grain Elevators (annual)	---	5,400	5,400	5,400
Irrigation (annual)	28,730	31,000	37,000	41,000
Large Commercial (annual)				
Walla Walla College	86,115	90,000	100,000	110,000
Walla Walla College	156,300	150,000	150,000	150,000
Walla Walla College	73,690	80,000	90,000	100,000
Walla Walla College	1,307,600	1,750,000	2,250,000	2,500,000
Public Street and Highway Lighting (annual)	12,720	12,720	12,720	12,720

a/ Includes seasonal consumers.

b/ Includes Public Buildings and Grain Elevators.

Richard G. Schmitt, Jr., Head
Field Appraisal Section
Program Analysis Division

July 15, 1953

Field Appraisal Section
Program Analysis Division

ANALYSIS OF BASIC FACTORS RELATED TO
THE RURAL ELECTRIFICATION LOAN FOR
WASHINGTON 20 COLUMBIA

This analysis of basic factors related to the future consumption of electricity by consumers of the Columbia County Rural Electric Association, Inc., with headquarters at Dayton, Washington (Figure 1), is based on a field study conducted during May 1953 by Earl A. Gardner, Agricultural Economist. This analysis was prepared by Robert B. Williamson, Business Economist. The field work consisted primarily of interviews with 56 farm and 30 town residential consumers. Additional consumers interviewed included the following consumer units: 20 irrigation services and 4 large commercial consumers.^{1/} Consumption data from billing records were secured for these and other classes. Agricultural leaders, including the cooperative's board of directors and local representatives of the U. S. Department of Agriculture, were consulted regarding local economic trends and their estimates of the future of the area with respect to the use of electric power. Supporting economic data were obtained from the U. S. Census for Columbia and Walla Walla Counties and from other secondary sources.

ULTIMATE NUMBER OF CONSUMERS

On April 30, 1953, the cooperative was serving 1,011 consumers. Including irrigation consumers not served as of that date but ordinarily served during the irrigation season, there was a total of 1,054 consumers of which 750 were classified as farm, 113 as town residential, 13 as public buildings, 1 as street lighting, 101 as irrigation, and the remainder as commercial consumers.

The manager has indicated the total of new consumers he expects to serve in the immediate future in his letter (Figure 2). Based on field appraisal information, the additional consumers indicated by the manager are in the area and the total of 1,169 consumers can be reasonably expected in the near future.

A Power Requirements Study completed for this system in November 1952 estimated that a total of 1,644 consumers will be served by 1962.

Analysis of consumer connections during the past 3 years reveals a sizeable turnover in consumers, with increases in new consumers partially offset by consumer disconnections. The difference between disconnections and reconnections indicates an average of 56 net disconnections per year. It is assumed that the disconnections reflect a loss of consumers once served, and this loss probably is in part a result of declining numbers of farms.

^{1/} Respondents in the survey were randomly selected from tabular lists and comprise a sample of approximately 10 percent of the total number presently connected. Farm consumers comprise approximately 70 percent of the cooperative's presently connected consumers, and farm consumer respondents comprise a sample of approximately 7 percent of the total in this class.

The number of farm consumers in 1963 would be only slightly more than the present number if trends in numbers of farms in the area continue downward. Over the past 15 to 30 years, the number of farms have decreased at an average rate of 12.5 percent each 10 years. The rate of decrease has been even greater in recent years. If the cooperative were to serve all of the unserved farms presently existing in its area, its number of farm consumers might be as large as 900.

No appreciable increase can be expected in the number of town consumers. The appraiser reported that most of the consumers in this class are either occupants of student housing projects near Walla Walla or residents of Starbuck. The Town of Starbuck has declined in population over the past 10 years. The appraiser observed several abandoned houses in town and very few new ones, and he reported that there was no basis for expecting an increase in business activity in Starbuck.

According to the appraiser's report, new irrigation wells will have to be deep, a factor which will tend to slow up new drilling. In addition, the appraiser indicated much of the additional land to be irrigated was of a lower class, either too sandy or rough. On the other hand, irrigation will be increased by completion of the Columbia Basin Irrigation Project, and sprinkler irrigation can be used on land too sandy or rough for other methods. The Power Requirements Study referred to previously estimates a total of 420 irrigation consumers to be served by 1962. This provides the principal increase as reflected in the estimate of total consumers to be served by 1962.

NATURE OF PRESENT AND INDICATED FUTURE CONSUMPTION
OF ELECTRICITY AS REVEALED BY THE SURVEY

A tabulation of the raw data secured from respondents revealed the monthly consumption figures shown in the following table.

TABLE I
INDICATED MONTHLY KWH CONSUMPTION^{a/}

Consumer Class	Present	Future ^{b/}	Percent Increase
Farm	562	638	11
Town Residential	429	477	11

^{a/} Based on indications by respondents in the survey and average energy requirements as determined by REA for the country at large.

^{b/} Based on what respondents expect to add in 3 years.

It should be noted that the respondents classified as farm actually averaged 1,096 kwh per month during the 12 months ended April 1952; town respondents averaged 456 kwh per month. Thus it appears that farm consumers in this area use 195 percent of REA average usage and town consumers use 106 percent.

Low cost power, good incomes, and high heating usage compared to national averages probably account for greater usage per appliance on farms in the area. Above average usage for space heating accounts for a large part of the difference.

In addition to the discrepancy between indicated and actual usage by farm respondents, the actual usage of 1,096 kwh per month by farm respondents was 147 percent of the average of 744 kwh per month for all farm consumers for the same period. One reason for this difference is the presence of approximately 90 farm meters on vacant houses. The owners pay a minimum charge to retain service and maintain property values. These units are reflected in the average reported for the entire farm class but are not adequately reflected in the sample. Sample town consumers averaged 456 kwh per month during the 12 months preceding the appraisal. This is 94 percent of the average of 487 kwh per month for all consumers in this class during the same period. These variations have been taken into consideration in this analysis.

Historical consumption records for farm consumers in the survey indicated a generally rising average consumption. This is revealed in Table II.

TABLE II
AVERAGE MONTHLY KWH CONSUMPTION
OF 51 FARM CONSUMERS

Years of Service	Number in Group	1946	1947	1948	1949	1950	1951	1952
7	1	748	756	464	672	617	453	665
6	19	---	504	623	771	811	939	1,084
5	1	---	---	68	89	90	98	104
4	7	---	---	---	393	632	531	913
3	10	---	---	---	---	678	835	990
2	5	---	---	---	---	---	528	1,048
1	8	---	---	---	---	---	---	1,242
Weighted Average		748	517	589	649	719	770	1,036

A saturation of electrical appliances and equipment, measured in terms of the percent of consumers presently having them and a corresponding percent anticipated in the future, was compiled from field schedules. This is shown for farm consumers in Table III.

TABLE III
PRESENT AND INDICATED FUTURE SATURATION OF
ELECTRICAL APPLIANCES AND EQUIPMENT OF FARM CONSUMERS^{a/}

Appliance or Equipment	Percent of Consumers		Percentage Point Increase
	Presently Using	Indicating Future Use	
Air Conditioning Unit	5	7	2
Air Compressor	27	30	3
Animal Clipper	5	5	--
Battery Charger	29	30	1
Blanket	18	20	2
Broiler	4	4	--
Brooder (Hover)	27	29	2
Brooder (Lamb)	2	2	--
Brooder (Pig)	4	4	--
Churn	4	4	--
Clock	79	79	--
Clothes Drier	27	38	11
Coal Stoker	4	4	--
Concrete Mixer	4	4	--
Cream Separator	16	18	2
Dishwasher	13	22	9
Drill Press	61	68	7
Elevator (Grain)	11	14	3
Elevator (Rough)	--	2	2
Evaporative Cooler	21	23	2
Fan (Cent. Hot Air Cir.)	4	4	--
Fan (Exhaust)	9	14	5
Fan (Household)	22	22	--
Feed Chopper	5	5	--
Feed Mixer	2	2	--
Fence	18	20	2
Food Mixer	79	79	--
Freezer (Home)	45	71	26
Garden Watering	27	29	2
Headbolt Heater	4	4	--
Heating Pad	30	30	--
Hot Plate	32	32	--
House Heating	2	2	--
Iron	95	96	1
Ironer	16	20	4
Lamp (Germicidal)	2	2	--
Lamp (Sun)	2	2	--

Appliance or Equipment	Percent of Consumers		Percentage Point Increase
	Presently Using	Indicating Future Use	
Lathe	4	5	1
Lighting:			
Beef Cattle Barn	18	18	--
Bunk House	16	18	2
Cave or Spring House	5	5	--
Dairy Barn	12	12	--
Garage	27	27	--
General Barn	29	30	1
Grain and Feed Storage Bldg.	2	2	--
Hog Barn	--	--	--
House Lighting	98	98	--
Milk House	9	9	--
Other Buildings	18	18	--
Poultry Brooder House	5	5	--
Poultry Laying House	29	30	1
Shop	66	73	7
Yard	39	41	2
Livestock Watering	37	39	2
Milk Cooler	5	5	--
Milk Pasteurizer	5	7	2
Milking Machine	11	11	--
Oil Furnace	34	36	2
Percolator	52	54	2
Power Saw	36	46	10
Pressure System (less than 22')	32	38	6
Pressure System (greater than 22')	36	38	2
Radio	93	95	2
Range	77	82	5
Refrigerator	9	13	4
Refrigerator (Walk-In, Two-Temp.)	2	3	1
Roaster	9	9	--
Seed Cleaner	2	2	--
Sewing Machine	38	41	3
Soldering Iron	23	23	--
Space Heater (Portable)	43	45	2
Stock Tank Heater	13	16	3
Teakettle	2	2	--
Television Receiver	25	30	5
Toaster	93	95	2
Tool Grinder	43	48	5
Vacuum Cleaner	82	86	4
Waffle Iron	75	75	--
Washing Machine	91	95	4
Water Heater with Bath	73	80	7
Water Heater without Bath	2	2	--
Water Heater (Pour-in)	--	2	2

Appliance or Equipment	Percent of Consumers		Percentage Point Increase
	Presently Using	Indicating Future Use	
Water Heater (Pressure-type)	7	9	2
Water Warmer	4	4	—
Welder	38	45	7

a/ Data do not reflect instances of more than one of the same appliance per consumer.

ECONOMIC CHARACTERISTICS

The service area is located in the southeastern border of Washington and lies principally in Columbia and Walla Walla Counties (Figure 1).

The population of this area increased steadily over the period 1920-1950. Over the same period, the number of farms declined. Both population and farms declined relative to numbers in the State as a whole except for the period 1945-1950 when the number of farms in the area did not decline as much as for the State (Table IV).

Population increase in the area over the past 10 years was the result of an increase in urban population; rural population declined slightly. In 1950 the urban population comprised 67 percent of the total, rural-nonfarm 19 percent, and farm population only 14 percent. The employed labor force in 1950 was for the most part employed in trade, services, public utilities and miscellaneous groups. Agriculture accounted for 18 percent of the total, construction 11 percent, and manufacturing 8 percent.

Farms in the area averaged 696 acres in 1950. They were valued at \$63,829 per farm, compared to an average of \$20,744 for the State as a whole. Over the period 1940-1950, farm values in the area increased at the same rate as for the State. Average income from all farm products sold by area farms in 1949 was \$14,624. This compares with an average of \$5,231 for the State as a whole and represents a slightly larger rate of increase over 1940 than for the State.

TABLE IV

ECONOMIC TRENDS RELATED TO THE RATE OF
INCREASE IN USE OF ELECTRIC POWER

Item and Relationship	Trend					
<u>Basic Economic Trends</u>						
<u>Population</u>	<u>1920</u>	<u>1930</u>		<u>1940</u>		<u>1950</u>
Service Area	33,632	33,766		36,096		44,995
State of Washington	1,356,621	1,563,396		1,736,191		2,378,963
Ratio Area to State	.0248	.0216		.0208		.0189
<u>Number of Farms</u>	<u>1920</u>	<u>1930</u>	<u>1935</u>	<u>1940</u>	<u>1945</u>	<u>1950</u>
Service Area	2,124	2,042	2,173	1,945	1,753	1,630
State of Washington	66,288	70,904	84,381	81,686	79,887	69,820
Ratio Area to State	.0320	.0288	.0258	.0238	.0219	.0233
<u>Average Income From All</u>						
<u>Farm Products Sold</u>		<u>1929</u>		<u>1939</u>	<u>1944</u>	<u>1949</u>
Service Area		\$5,495		\$3,894	\$11,887	\$14,624
State of Washington		\$2,593		\$1,438	\$4,437	\$5,231
Ratio Area to State		2.12		2.71	2.68	2.80
<u>Average Value of Land</u>						
<u>and Buildings</u>		<u>1930</u>	<u>1935</u>	<u>1940</u>	<u>1945</u>	<u>1950</u>
Service Area		\$29,986	\$18,937	\$22,306	\$32,222	\$63,829
State of Washington		\$10,911	\$6,527	\$7,264	\$11,268	\$20,744
Ratio Area to State		2.75	2.90	3.07	2.86	3.08
<u>Power Cost and Power Use Trends</u>						
<u>Cost of Purchased Power</u>		<u>1942</u>	<u>1945</u>	<u>1948</u>	<u>1951</u>	
Washington 20 Columbia		0.49¢	0.35¢	0.32¢	0.33¢	
All REA in State of Washington		1.05¢	0.35¢	0.36¢	0.33¢	
<u>Average Monthly KWH Consumption</u>						
<u>Per Farm Consumer</u>		<u>1942</u>	<u>1945</u>	<u>1948</u>	<u>1951</u>	<u>1952</u>
Washington 20 Columbia		221	315	582	648	734
Neighboring Co-ops ^{a/}		160	246	386	526	614
All REA in State of Washington		---	---	357	510	---

^{a/} Averages of two systems' farm averages weighted on basis of their number of farm consumers in 1952.

The major source of agricultural income in the area is from wheat. About 70 percent is from wheat and similar field crops, about 11 percent is from vegetables, 10 percent from livestock excluding dairy and poultry, and about 4 percent from dairying. The remainder is from miscellaneous products.

Wheat farms, while accounting for a large share of total cash sales, represent a smaller proportion of the total number of farms when classified by major product. Cash grain farms comprise 33 percent of the total; farms classified as livestock other than dairy and poultry account for 8 percent, vegetable farms 7 percent, and dairy farms 6 percent. The remaining farms are primarily general farms.

According to the 1950 census, 42 percent of the farms irrigate 2 percent of the total land in farms. About two-thirds of this irrigated land is in cropland harvested and the main irrigated crop is alfalfa.

Ownership of farms in full or in part is reported by 81 percent of the operators. Many of these also rent land. Over two-fifths of all farm operators reported off-farm employment in 1949, with about one-quarter of the total working off the farm 100 days or more.

Farm facilities data for 1950 indicate 86 percent of the farms with central station electricity and 69 percent with telephones. U. S. Highway 410 and State highways traverse the settled portions of the general area. Railroads serving the area are the Union Pacific and the Northern Pacific. Cattle marketing facilities appear to be adequate, and grain elevators are scattered throughout the area. There are several large canning companies in the area. Some of these larger companies rent land and harvest their own vegetables for canning.

Among the important trade centers in the area are: the City of Walla Walla, county seat of Walla Walla County and largest city (population 24,102) in the service area; Dayton, county seat of Columbia County; Waitsburg, location of a vegetable processing plant; and Prescott, a wheat shipping center. Other towns of interest are Starbuck in Columbia County and College Place, located near the City of Walla Walla. Starbuck is served by the cooperative. Its population was 194 in 1950, compared with 251 in 1940. Walla Walla College, also served by the cooperative, is located in College Place. The population of College Place was 3,174 in 1950, compared with 1,272 in 1940.

There were 41 manufacturing establishments in the two-county area in 1947, according to the Census of Manufactures. Six of these each employed 100 or more persons. Important types of manufacturing in order of importance were food and kindred products, which accounted for almost one-half of the total number of establishments, lumber and lumber products, printing and publishing, and fabricated metals.

PHYSICAL CHARACTERISTICS

The topography of the area is gently rolling to steep. The altitude ranges from around 750 feet in the river valleys to over 4,500 feet in the Blue Mountains. Farms are found at altitudes of up to 3,000 feet. A number of rivers and streams provide drainage (Figure 1). To the southeast of the area lies the Umatilla National Forest. Over most of the area soils range from sandy or silt loams to clay loams in the mountain foothills.

The length of growing season ranges from 110 to 210 days. Average temperatures as recorded in Walla Walla County are 32 degrees for January and 75 degrees for July. Precipitation varies from 6 inches near the Columbia River on the west to 35 and 40 inches in the mountains, with most of it in the winter and early spring.

ANALYSIS OF FUTURE FARM AND TOWN RESIDENTIAL KWH CONSUMPTION

This cooperative was energized in 1940, and since 1942 average monthly farm consumption has increased from 221 kwh to 744 kwh for the 12 months ended April 1953. This is an increase in average monthly usage of about 50 kwh per year. Over the same period, average town residential consumption has increased about 45 kwh per year to a monthly average of 487 kwh for the 12 months ended April 1953. Over the period 1948-1952 average farm consumption increased at the same rate as for the longer period; however, average town consumption increased at a decreasing rate, with an average increase of about 40 kwh per year over the period.

Both farm and town respondents indicated an 11 percent increase in usage within 3 years. Applied to present consumption averages for the respective classes, average monthly consumption would be 826 kwh for all farm consumers and 541 kwh for all town residential consumers.

Gas competition with electricity is not serious for this cooperative. Only 7 percent of the farm consumers and 3 percent of the town consumers reported using gas. None reported planning to add gas appliances, and the 4 farm respondents using gas reported plans to convert 1 range, 2 water heaters, and 1 refrigerator from gas to electricity. Oil furnaces using some electricity and electric space heaters are used for house heating.

The cooperative's farm and residential retail rate schedule is as follows:

First	50 kwh	@	4¢ per kwh
Next	100 kwh	@	2¢ per kwh
Next	150 kwh	@	1¢ per kwh
Over	300 kwh	@	0.75¢ per kwh

In addition, there is a monthly amortization charge of \$3.50 for farm consumers and \$1.50 for town consumers.

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Except for irrigation, farm consumers use electricity mainly in the home rather than in farm production. The appraisal revealed that the principal reason farm consumers do not plan to add many more appliances is that they felt they had nearly all they could use in the home.

About one-half the town residential consumers are Walla Walla College students who live in apartments typical of veterans' housing throughout the country. With a large turnover in this group, little increase in consumption can be expected. With no great increase in business activity expected for the Town of Starbuck, only moderate increases in consumption can be expected of town consumers there.

Future consumption of both farm and town consumers of the cooperative will be greatly affected by the market for wheat, which yields most of the farm income and, indirectly, much of the income of the town consumers.

Estimated kwh increases and total usage by major uses to be achieved in 1956 are shown for farm consumers in Table V. More than one-half the estimated increase is expected to occur through the addition of 6 major home appliances.

TABLE V
INDICATED SATURATION OF APPLIANCES AND EQUIPMENT
AND ESTIMATED KWH USAGE, FARM CONSUMERS
BY CHARACTER OF LOAD PER 100 CONSUMERS, 1956

Use	<u>Indicated Saturation</u>		<u>Estimated KWH Usage^{a/}</u>		
	Increase	Future Total	Increase	Percent of Increase	Future Total
<u>Major Household Uses</u>					
Freezer	26	71	21,830	18.11	61,092
Water Heater	7	82	18,572	15.41	234,987
Range	5	82	7,331	6.08	126,121
Television	5	30	6,109	5.07	7,429
Clothes Dryer	11	38	5,084	4.22	17,819
Space Heater	2	45	4,616	3.83	155,038
<u>Major Productive Use</u>					
Dairy Water Heater	4	11	9,775	8.11	29,053
<u>Miscellaneous</u>	--	--	47,238	39.17	381,775
Total - estimated annual average usage per 100 consumers			120,555	100.00	1,013,314
Estimated annual average usage per consumer			1,206		10,133
Estimated monthly average usage			100		844

^{a/} Adjusted to take into account that the amount of electricity required for appliances in this area averages 95 percent more than for the United States as determined by REA, and average consumption of respondents was 47 percent greater than for all farm consumers served by this cooperative.

There are a few consumers reported as farm accounts that are seasonal consumers. These are billed at farm and residential rates and have been included in the farm averages and estimates in this analysis.

IRRIGATION

The cooperative served 101 irrigation loads during the 12 months ending April 1953. At the time of the appraisal, the cooperative had 1,800 H.P. total irrigation load connected. In addition, 243 H.P. are signed and lines are under construction. Average annual use for 101 irrigation consumers was 28,730 kwh during the 12 months ending April 1953.

The sample indicated irrigation water was pumped from ditches by 55 percent of the consumers, from wells by 35 percent, and from rivers by 10 percent. For some of the consumers, gravity irrigation is possible during parts of the season. In some areas, the water supply from ditches is not available during part of the season. An example is the ditch near Lowden. Here the farmers pump from wells during July and August. Those pumping from wells indicated an average of 66 feet depth to water level from highest point of water elevation. The appraiser reported that the Soil Conservation Service in the area estimates future wells will vary from 100 to 250 feet in depth. Sprinkler irrigation was reported by all irrigation respondents.

Respondents reported irrigation was used principally for alfalfa, pasture, and wheat. Most of the soils being irrigated range from sandy to sandy loams. The irrigation season averages about 7 months. Average hours of pumping during the season varies by area as follows:

Burbank Area	2,270 hours
Lowden Area	1,300 hours
Other Areas	570 hours

OTHER CLASSES OF CONSUMERS

Other classes of consumers served by the cooperative are small and large commercial consumers, public buildings, and public street lighting. These consumers accounted for 15 percent of the cooperative's kwh sales during the 12-month period preceding the appraisal. The monthly averages for each of these classes were as follows:

<u>Class</u>	<u>KWH Average</u> ^{a/}
Small Commercial)	
Public Buildings)	223
Large Commercial (annual)	
Walla Walla College--Teachers Cottages (31 KW)	86,115
Walla Walla College--Teachers Cottages (120 KW)	156,300
Walla Walla College--Teachers Cottages (43.5 KW)	73,690
Walla Walla College--Boiler Room (110 KW)	1,307,600
Public Street and Highway Lighting	1,060

^{a/} Averages are monthly except for Large Commercial.

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Small commercial consumers are for the most part grain elevators. Most of the public buildings served are small school houses being used as community halls. The street lighting is in the Town of Starbuck.

The large power loads are all at Walla Walla College. The college has a building program which is expected to continue for several more years. Apparently the immediate effects of this program will be to increase usage but not increase the number of connected loads served by the cooperative. One dormitory will have a new wing this summer, which should increase the demand 10 to 15 KW a month. A new cafeteria, which will use 15 to 20 KW per month more, will be completed by 1955 to replace the present cafeteria. A new church to replace the present one should result in no increase in power consumption. The college's Superintendent of Plant estimates over-all average use to increase 10 to 15 percent in the next 5 years. To what extent the cooperative will serve these additional needs is not definite. The college has a steam power plant which, according to reports, it uses for supplemental power during the winter to decrease the annual peak demand on its purchased power.

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